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ENVIRONMENTAL ASSESSMENT for the

EXISTING SHORELINE REVETMENT
Pupukea, Koolauloa, Oahu

FEBRUARY 1990

PREPARED FOR:

Douglas C. Ostman, M.D., et al
(Owners of TMK: 5-9-20:47-52)

RMTC

R. M. Towill Corporation

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ENVIRONMENTAL ASSESSMENT
FOR
EXISTING SHORELINE REVETMENT
Pupukea, Koolauloa, Oahu

TAX MAP KEY:	5-9-01: Por. 38, 5-9-20:47-52
PROPOSING PARTY:	Douglas C. Ostman, M.D., et al, Owners of TMK: 5-9-20:47-52
ACCEPTING AGENCY:	Department of Parks and Recreation City and County of Honolulu
AGENCIES CONSULTED:	State Department of Land and Natural Resources City Department of Land Utilization

1. PROPOSED PROJECT

1.1 Summary

After-the-fact City and State permits and easements are requested for a 700-foot long sloping private revetment constructed makai of seven beachfront lots (Tax Map Key: 5-9-20:47-52) on Oahu's North Shore in 1983 (see Figure 1). This revetment was primarily built on State property identified by Tax Map Key: 5-9-01: Por. 38 and under Executive order No. 2598 to the City Department of Parks and Recreation for Pupukea-Paumalu Beach Park.

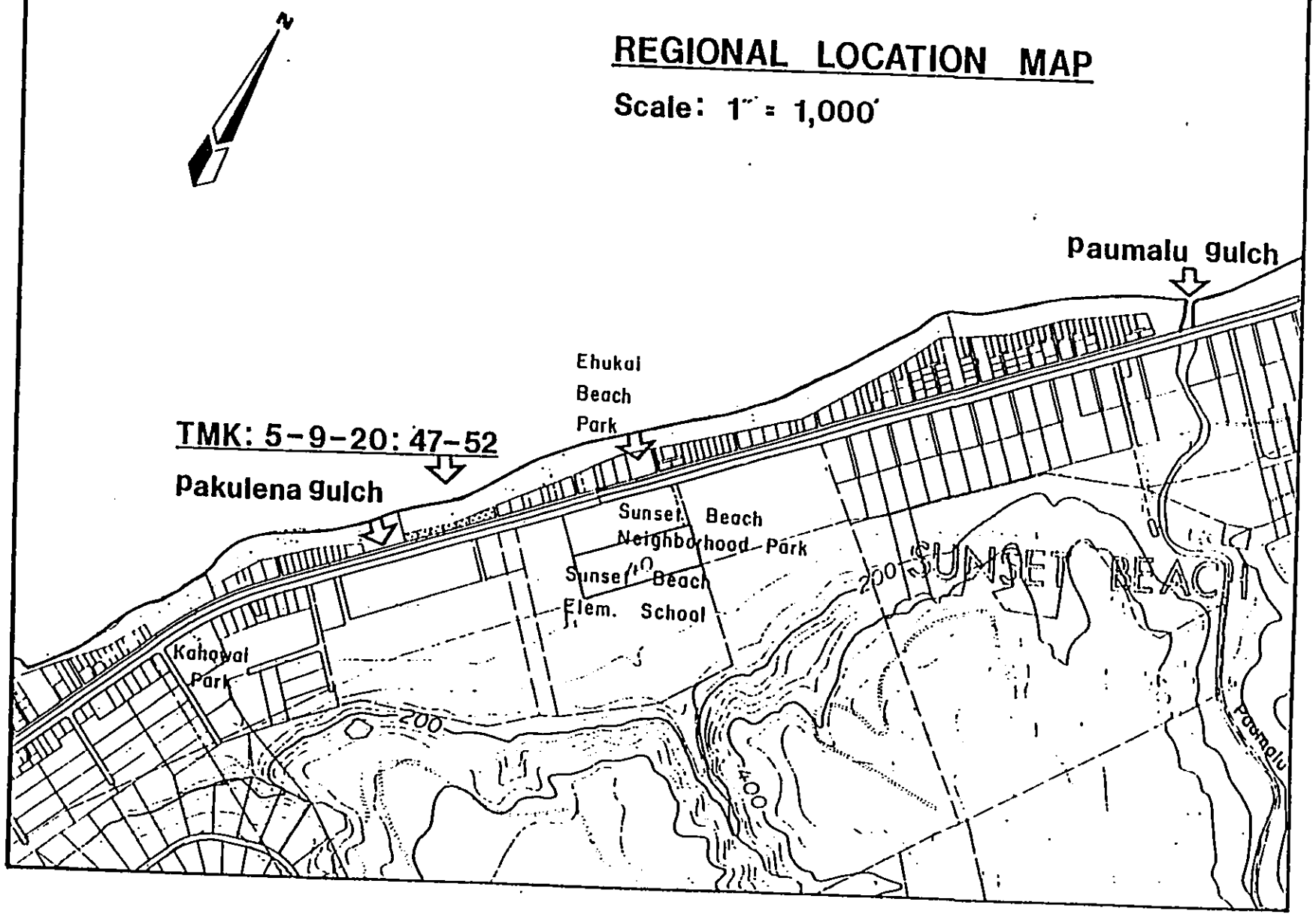
2. TECHNICAL CHARACTERISTICS

There are no as-built plans for the sloping private revetment, and only part of its top is visible. Over half of the revetment is buried beneath the beach. A survey was recently made of the exposed top of the revetment (see Figure 2). Maps were then prepared to estimate the dimensions of the revetment on State property makai of the seven lots (see Figures 3A to 3G). For purposes of estimating the dimensions of the revetment, it was assumed that the buried part has the same slope as the exposed part fronting each lot. It was also assumed that the buried toe of the revetment is at an elevation of 5 feet above mean sea level (see Figures 4A to 4E). For purposes of general perspective, one typical summer profile was prepared to show the ground surface from the ocean to Kamehameha

FIGURE 1

REGIONAL LOCATION MAP

Scale: 1" = 1,000'



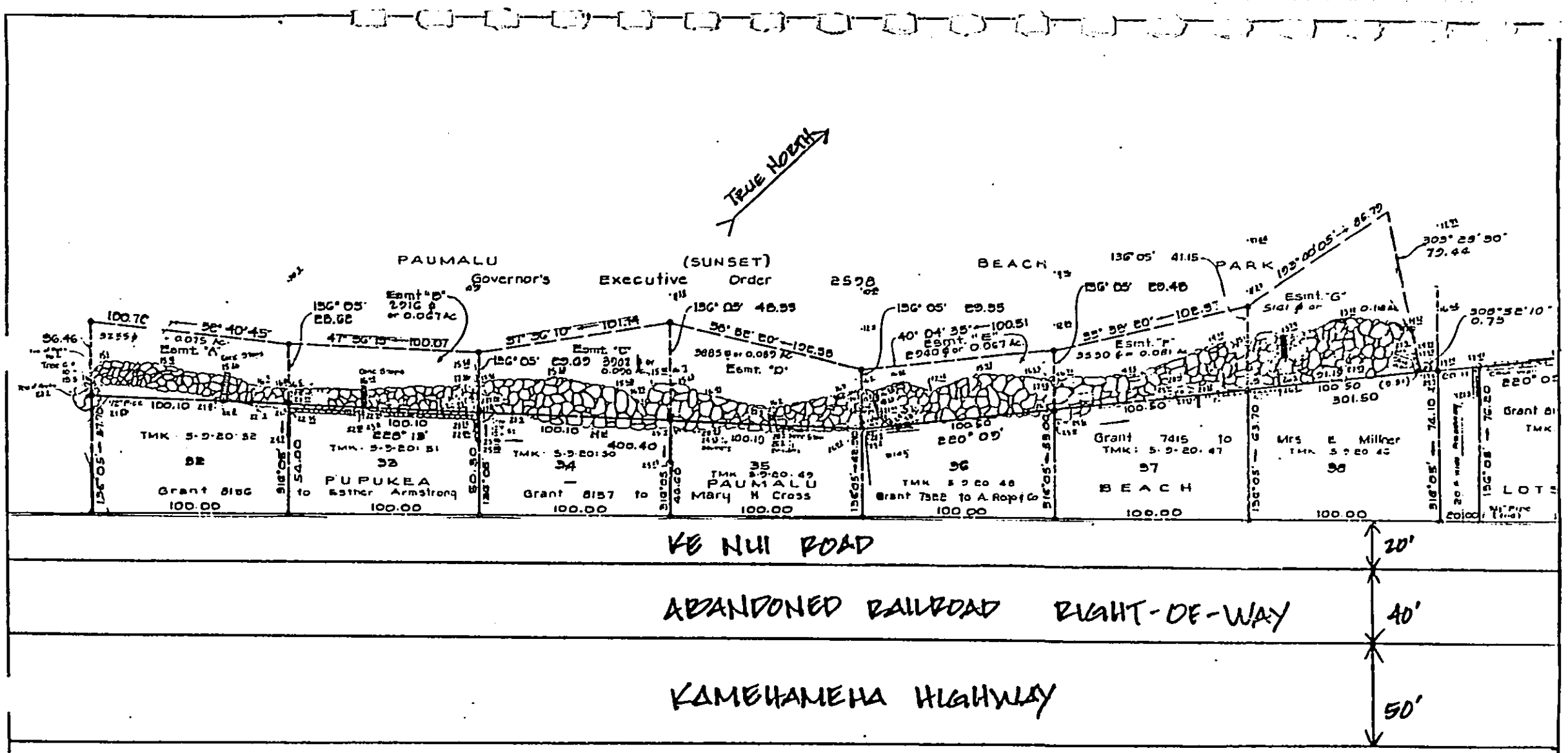


FIGURE 2

KEY TO PROPOSED EASEMENTS "A" TO "G"

SCALE: 1" = 60'

FIGURE 3A

PERPETUAL EASEMENT "A" IN FAVOR OF LOT 32 OF PUPUKEA-PAUMALU BEACH LOTS AT PUPUKEA, KOOLAULOA, OAHU, HAWAII

June 28, 1989 Scale: 1 in. = 30 ft.

TMK: 5-9-20: 52

Owners: Paul Stader & Marilyn M. Stader

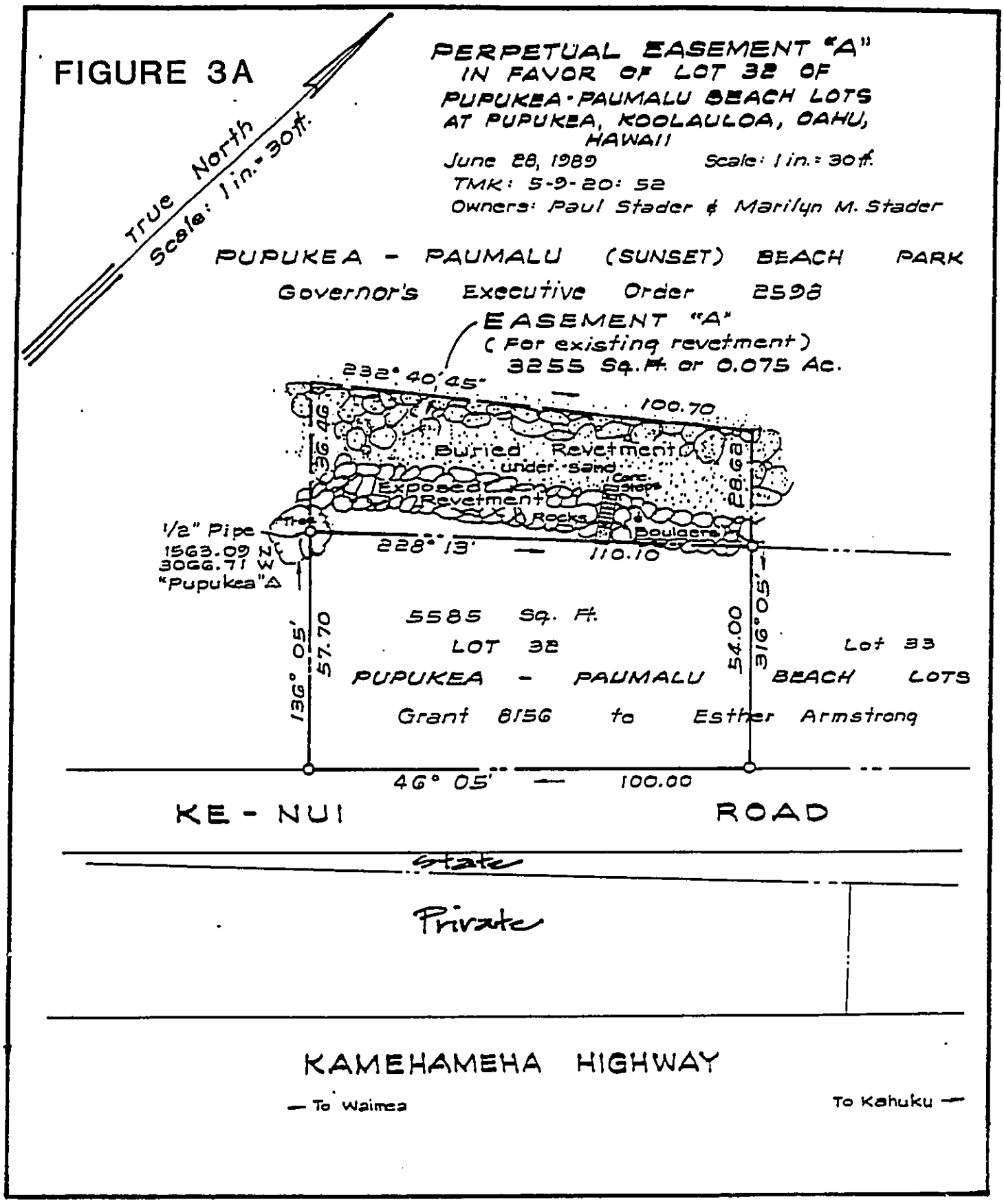


FIGURE 3B

PERPETUAL EASEMENT "B" IN FAVOR OF LOT 33 OF PUPUKEA-PAUMALU BEACH LOTS AT PUPUKEA, KOOLAULOA, OAHU, HAWAII

June 28, 1989 Scale: 1 in. = 30 ft.
TMK: 5-9-20: 51
Owner: Douglas C. Ostman

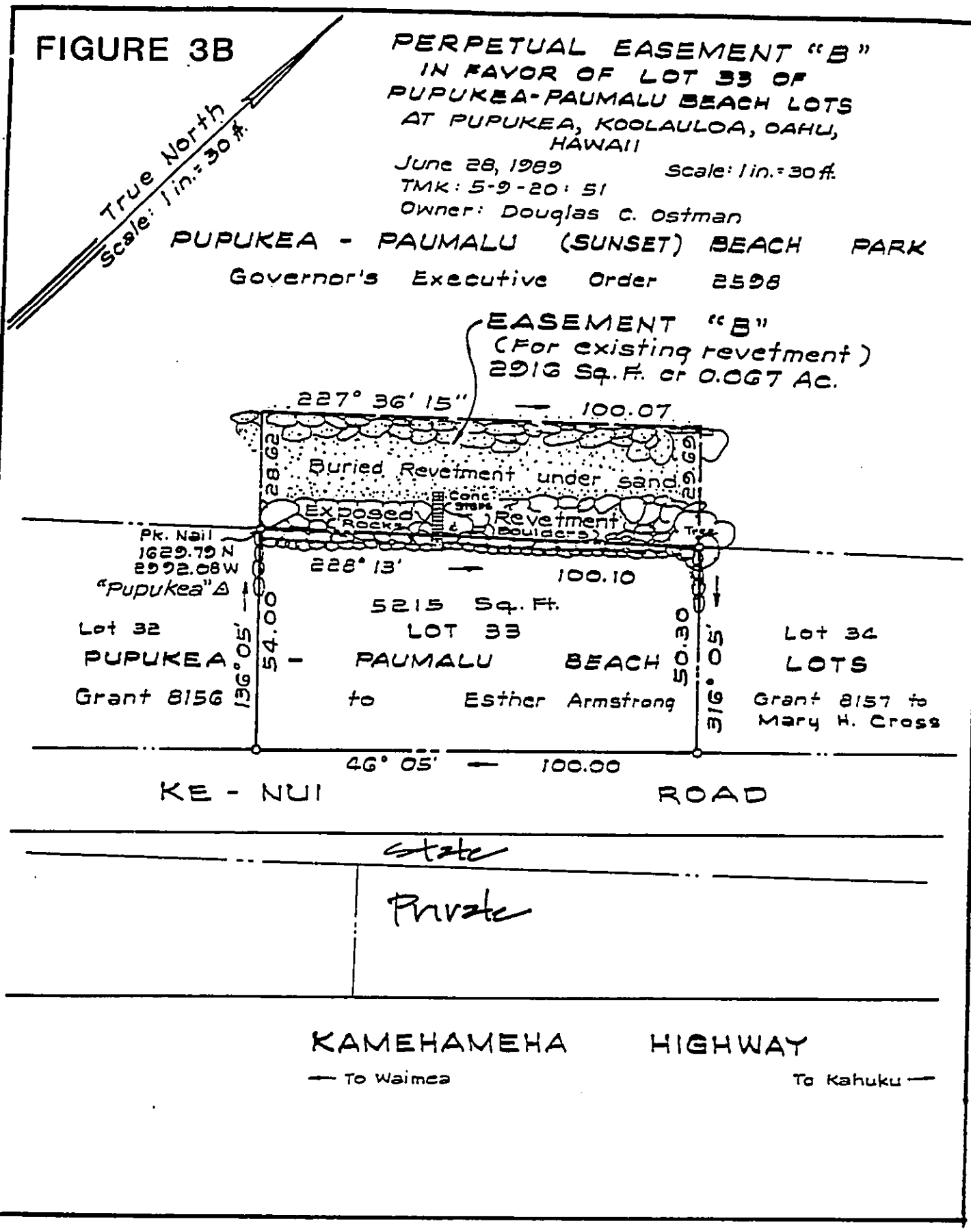


FIGURE 3C

PERPETUAL EASEMENT "C"
IN FAVOR OF LOT 34 OF
PUPUKEA-PAUMALU BEACH LOTS
AT PUPUKEA, KOOLAULOA, OAHU,
HAWAII

June 28, 1989 Scale: 1 in. = 30 ft.
TMK: 5-9-20: 50
Owner: Diether Roth

PUPUKEA - PAUMALU (SUNSET) BEACH PARK
Governor's Executive Order 2598

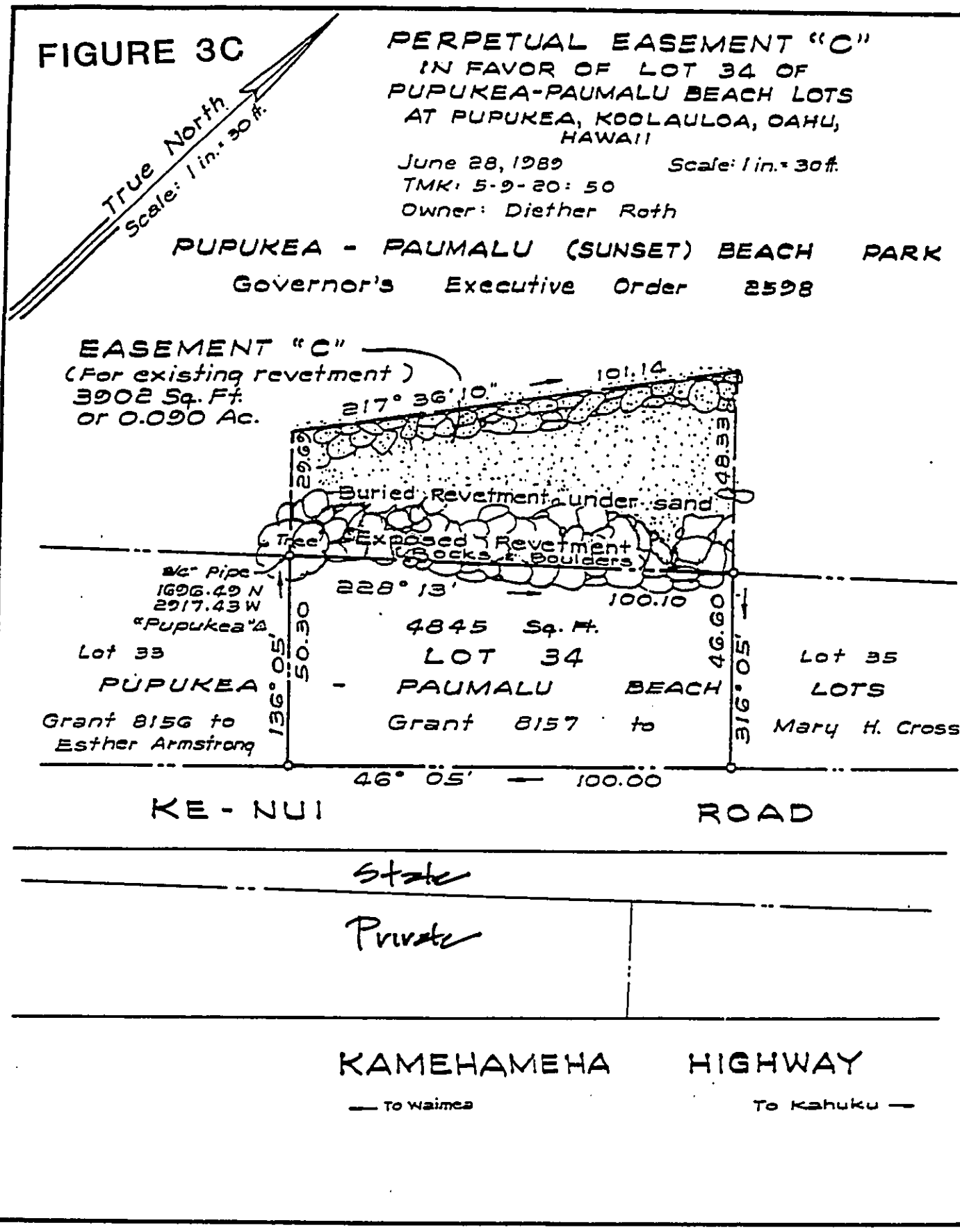


FIGURE 3D

PERPETUAL EASEMENT "D"
IN FAVOR OF LOT 35 OF
PUPUKEA-PAUMALU BEACH LOTS
AT PUPUKEA, KOOLAULOA, OAHU,
HAWAII

June 29, 1989
TMK: 5-9-20: 49
Owner: Gary Gerberg

Scale: 1 in. = 30 ft.

True North
Scale: 1 in. = 30 ft.

PUPUKEA - PAUMALU (SUNSET) BEACH PARK
Governor's Executive Order 2598

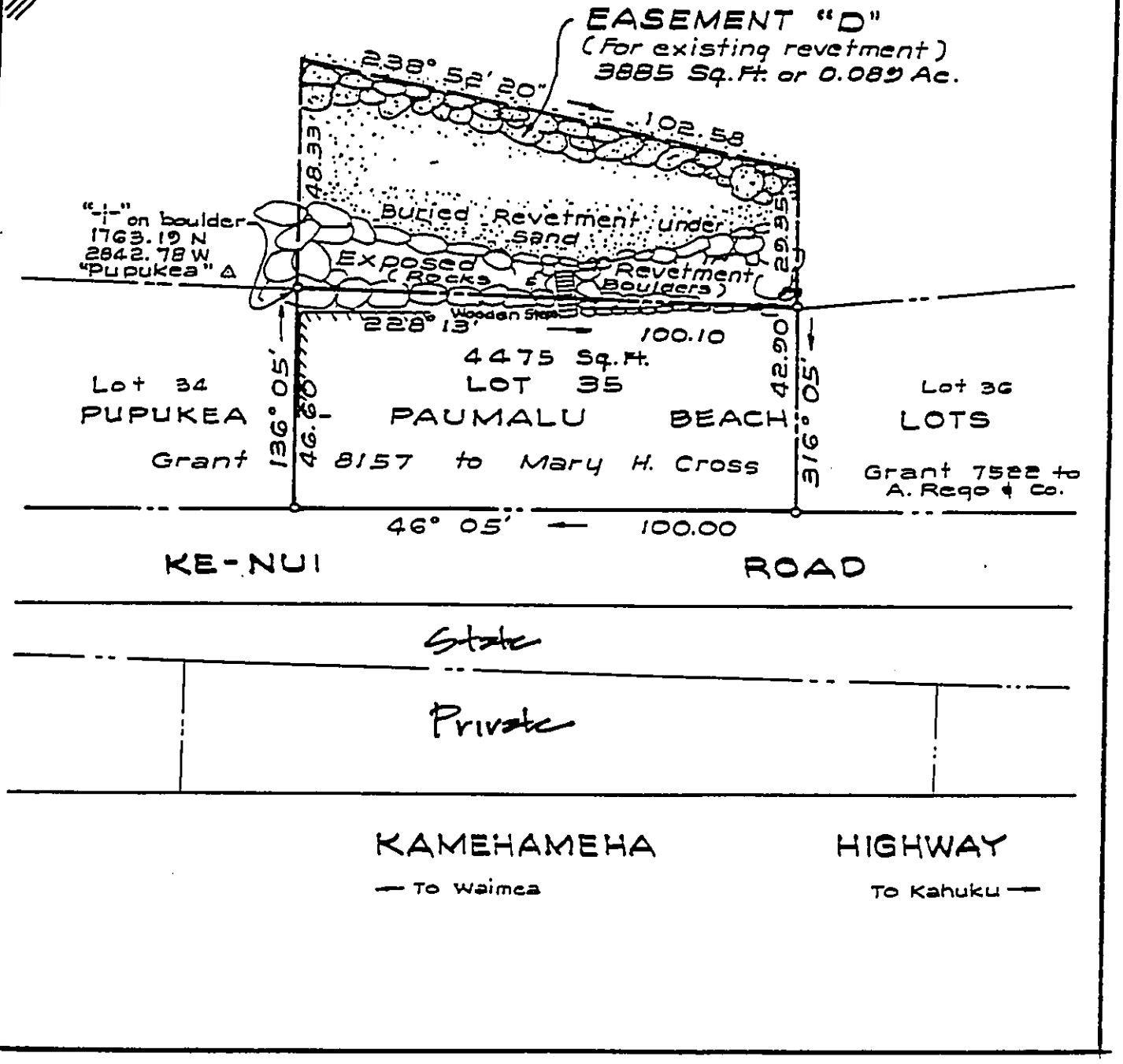


FIGURE 3E

PERPETUAL EASEMENT "E" IN FAVOR OF LOT 36 OF PUPUKEA - PAUMALU BEACH LOTS AT PUPUKEA, KOOLAULOA, OAHU, HAWAII

June 29, 1989 Scale: 1 in. = 30 ft.

TMK: 5-9-20: 48

Owner: Don Over

PUPUKEA - PAUMALU (SUNSET) BEACH PARK

Governor's Executive Order 2598

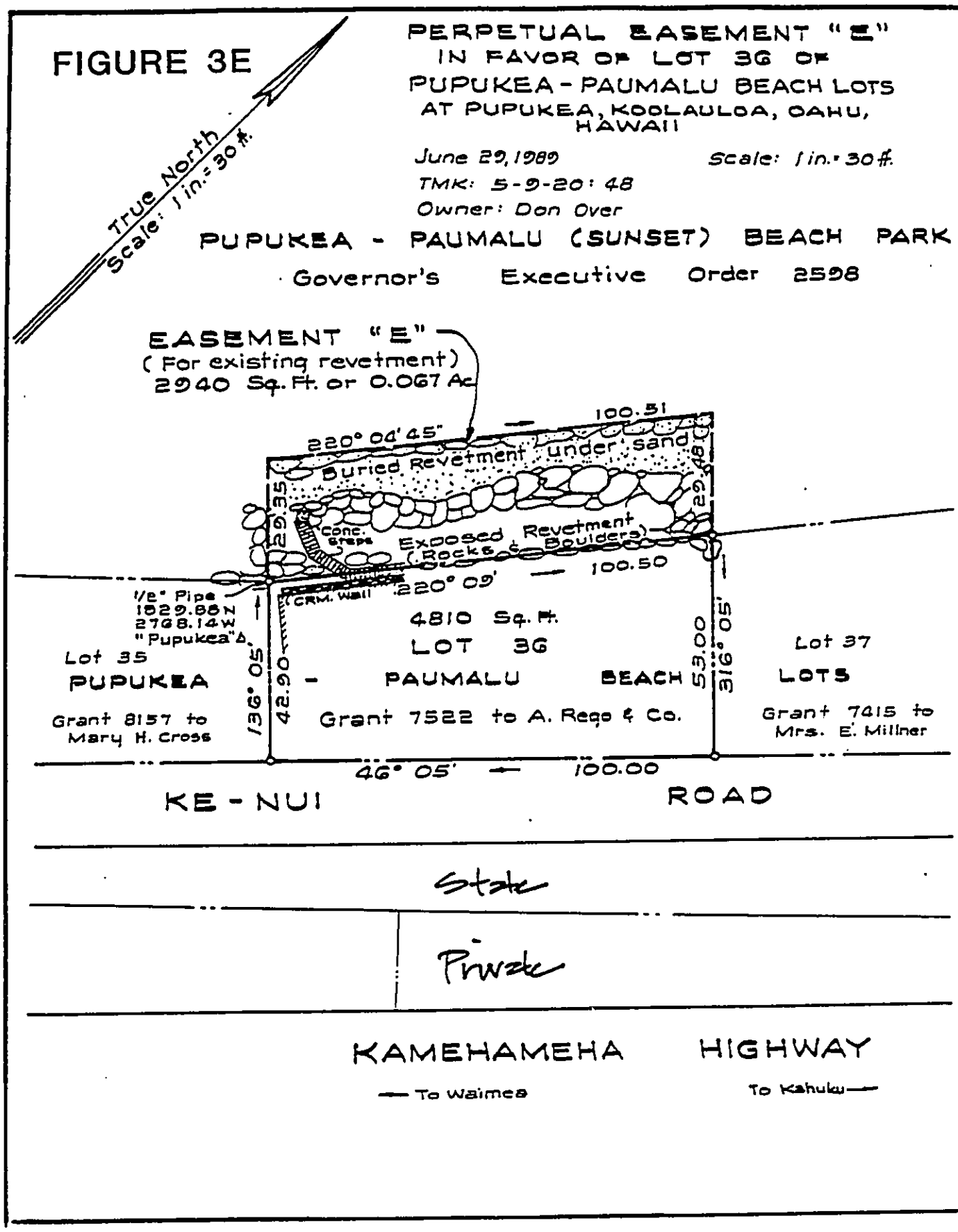


FIGURE 3F

PERPETUAL EASEMENT "F"
IN FAVOR OF LOT 37 OF
PUPUKEA - PAUMALU BEACH LOTS
AT PUPUKEA, KOOLAULOA, OAHU,
HAWAII

June 30, 1989 Scale: 1 in.= 30ft.
TMK: 5 9 20: 47
Owner: Martin Yester

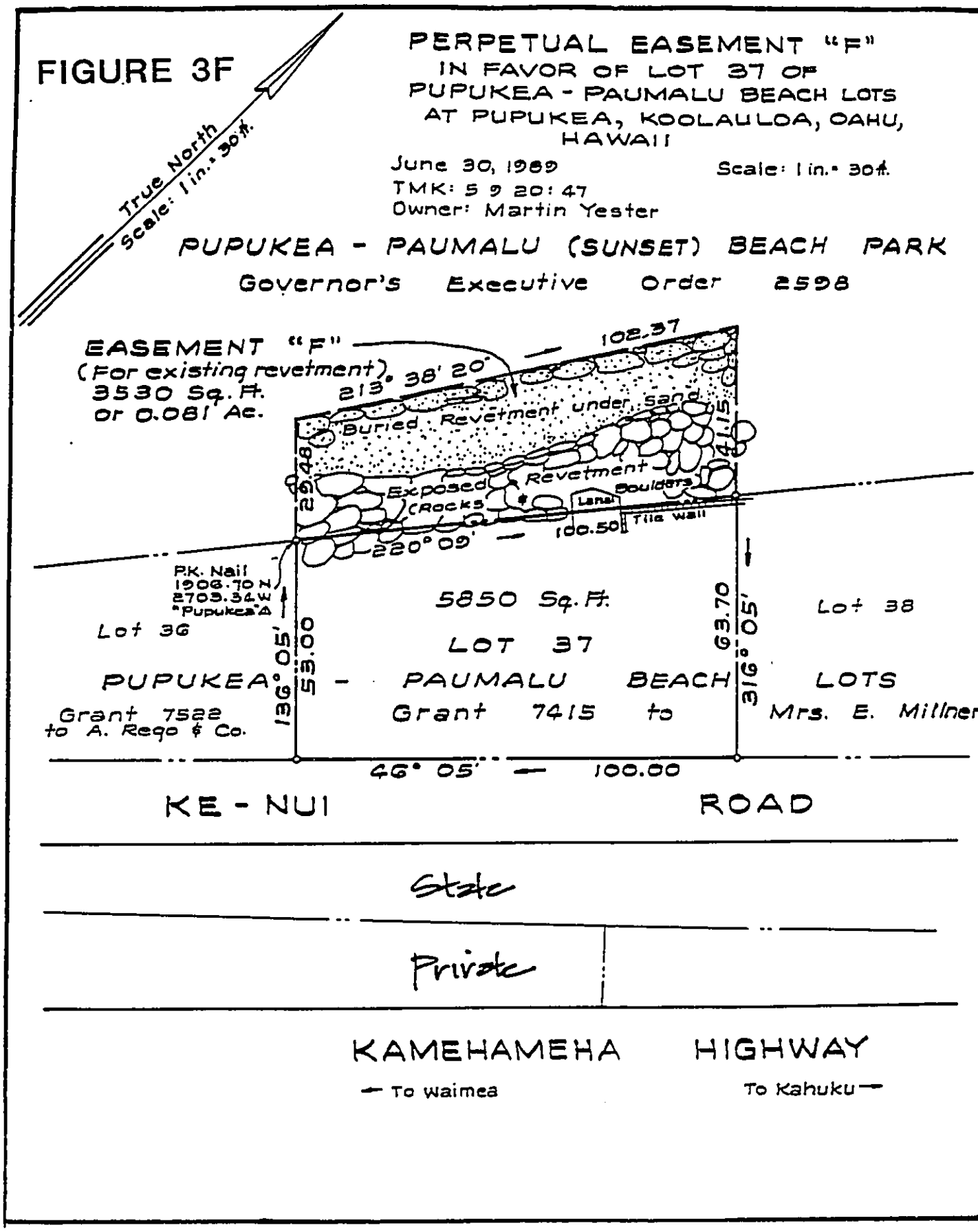


FIGURE 3G

PERPETUAL EASEMENT "G"
IN FAVOR OF LOT 38 OF
PUPUKEA - PAUMALU BEACH LOTS
AT PUPUKEA, KOOLAULOA, OAHU,
HAWAII

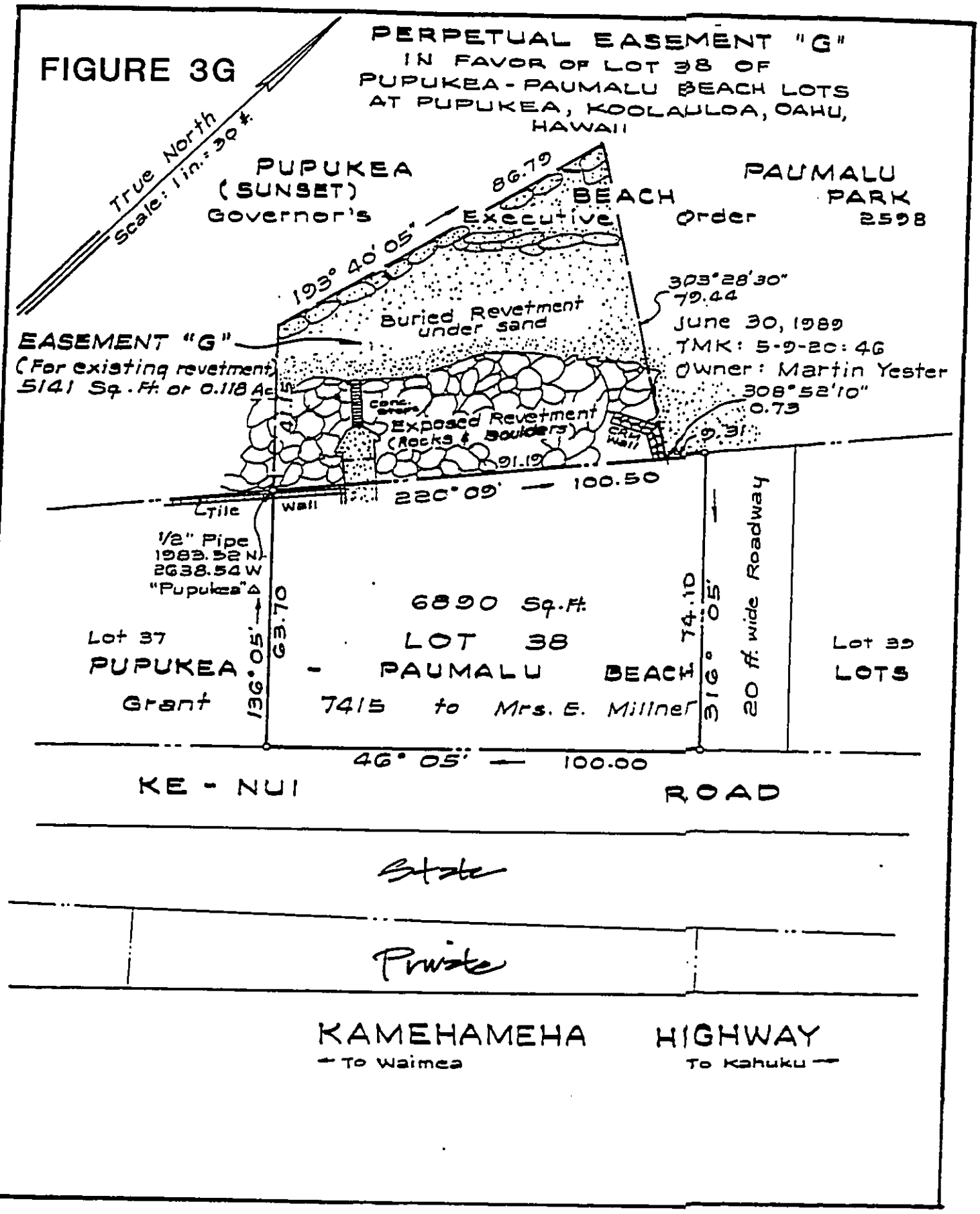
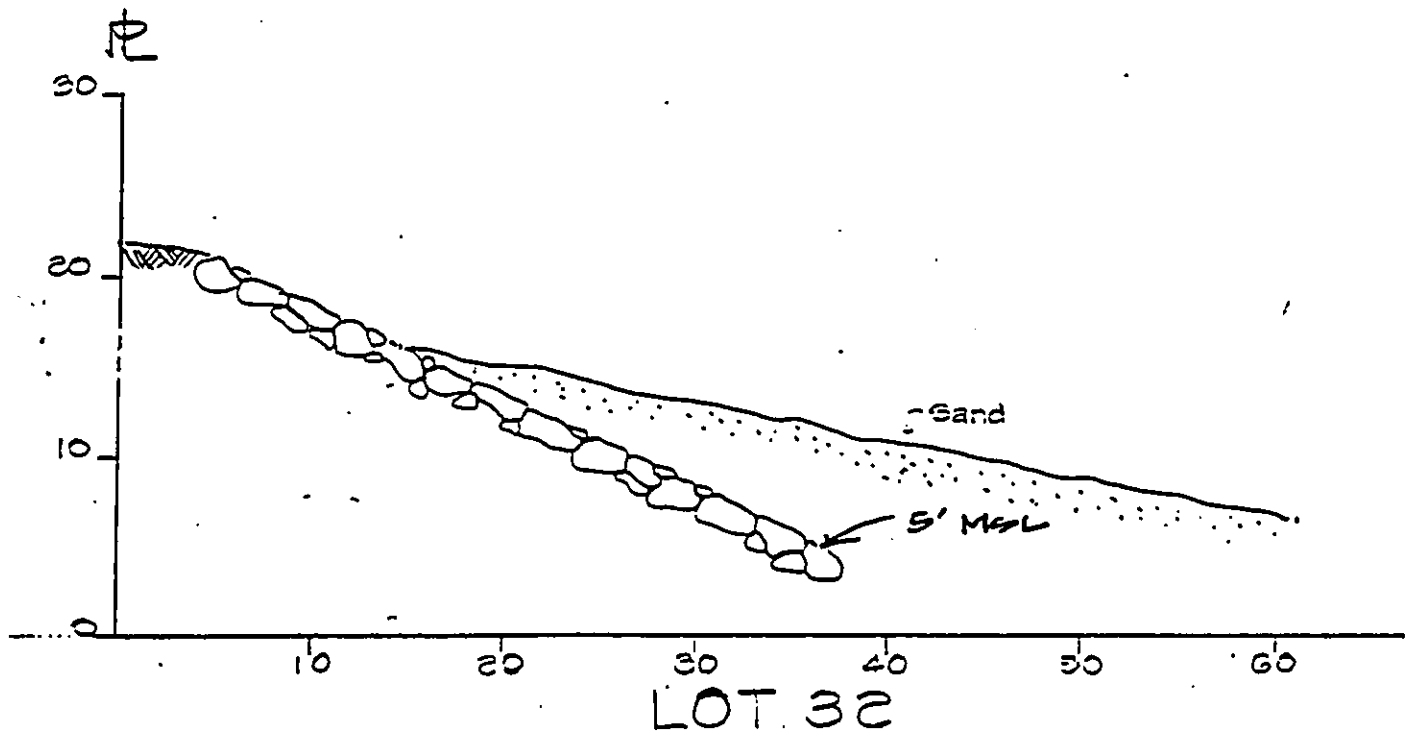


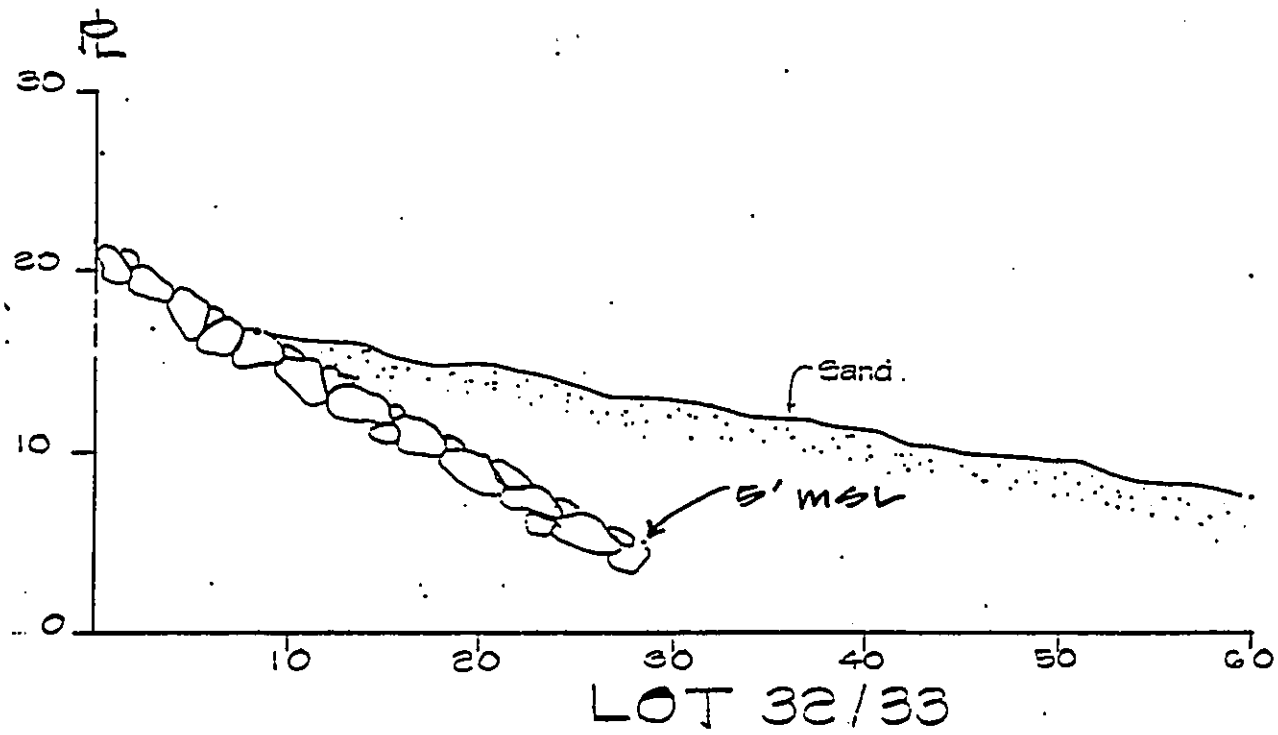
FIGURE 4A

PROFILE OF REVETMENT FACE

SCALE: 1" = 10'



LOT 32

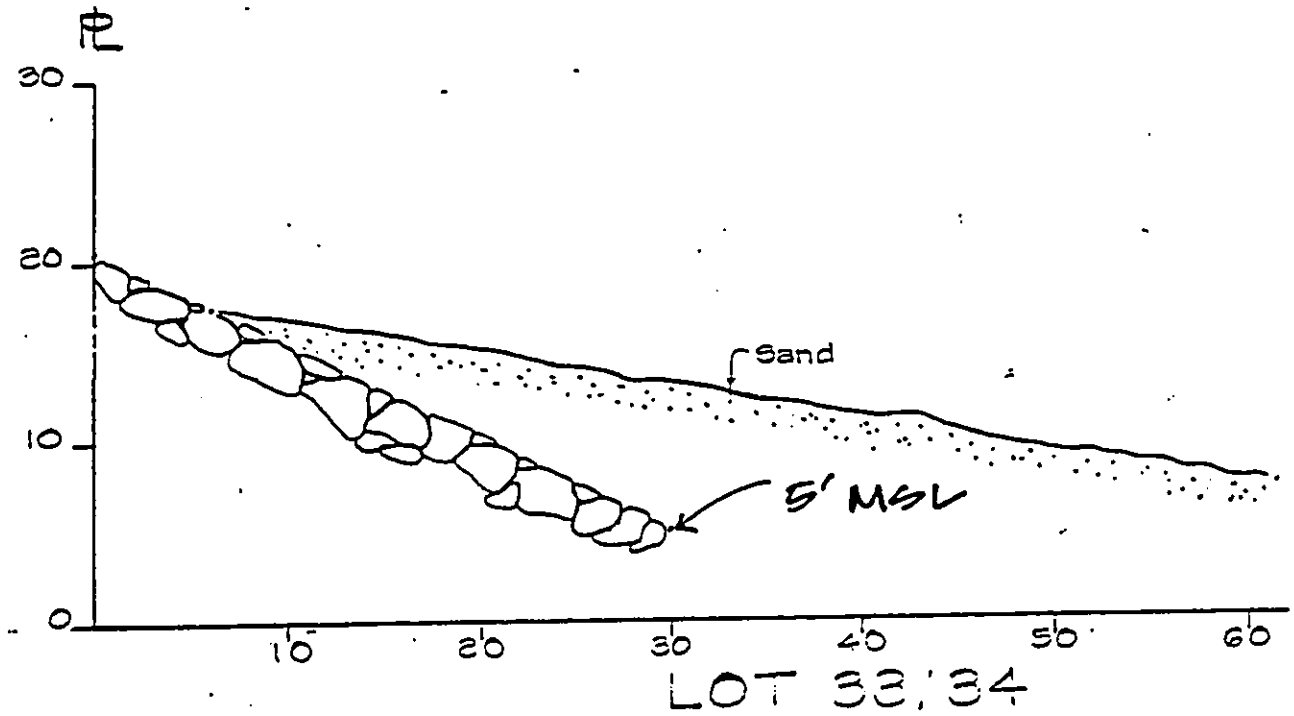


LOT 32/33

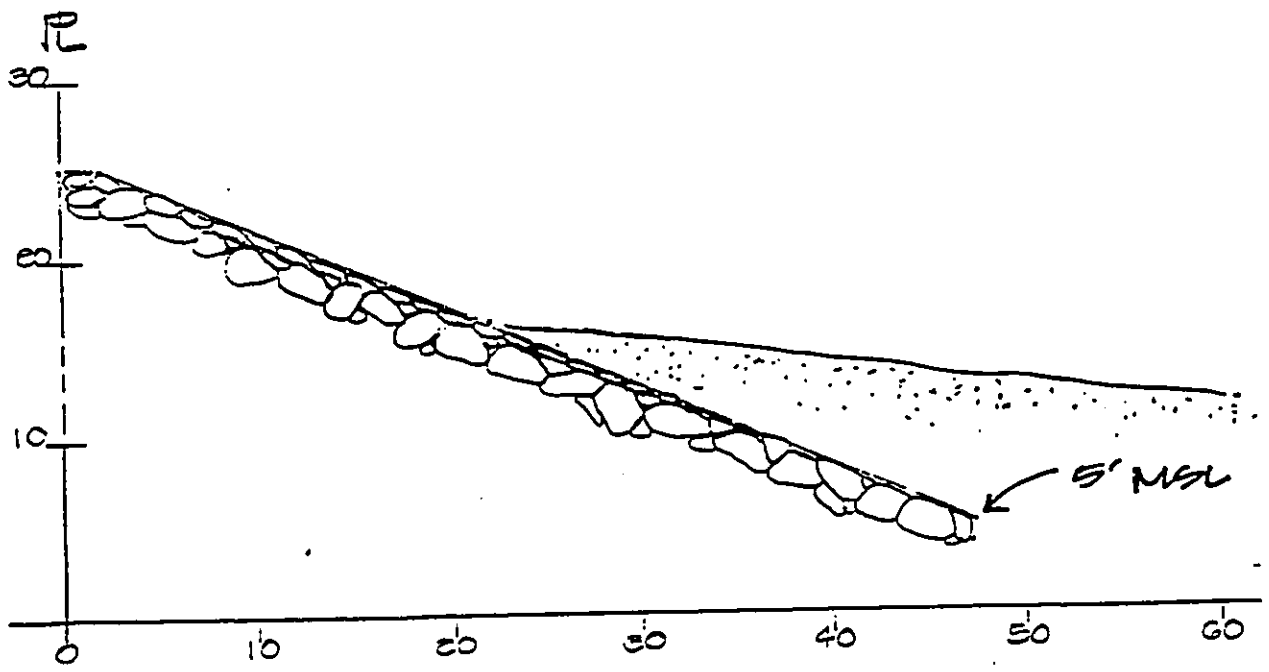
FIGURE 4B

PROFILE OF REVETMENT FACE

SCALE: 1" = 10'



LOT 33/34



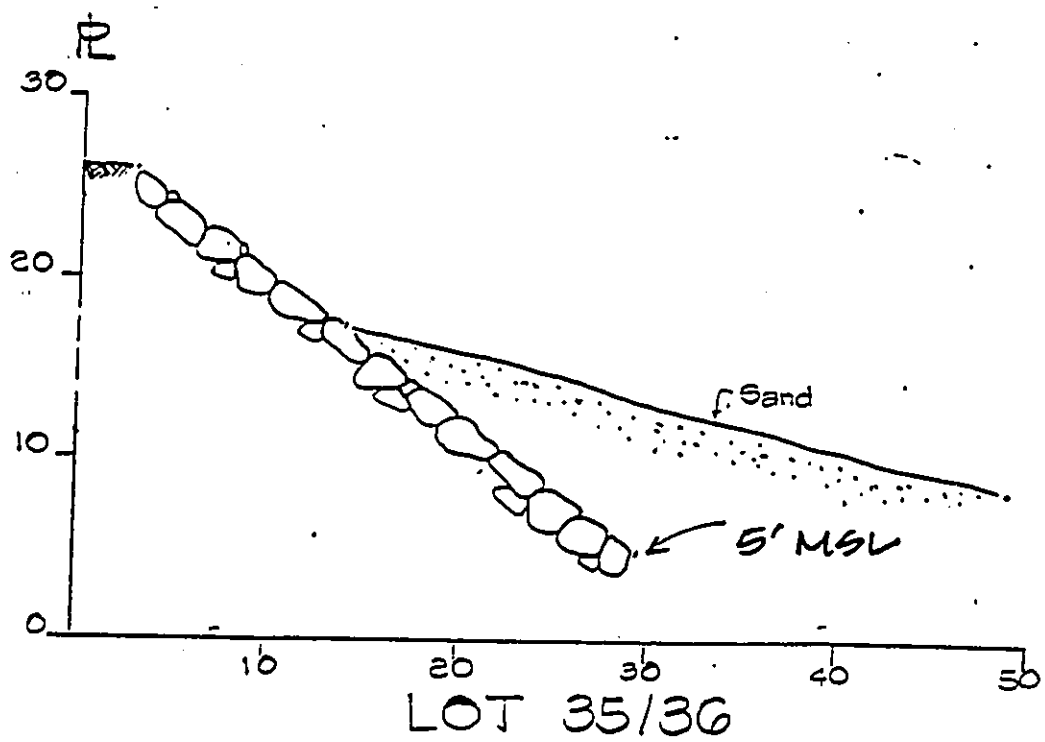
LOT 34/35

CROSS SECTIONS

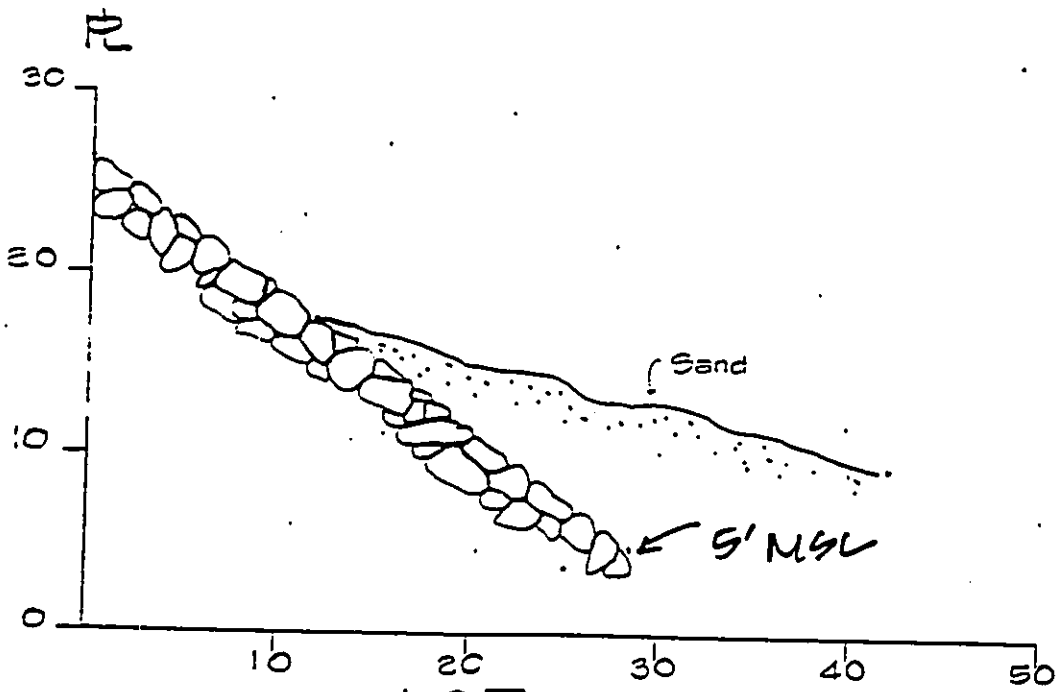
FIGURE 4C

PROFILE OF REVETMENT FACE

SCALE; 1" = 10'



LOT 35/36

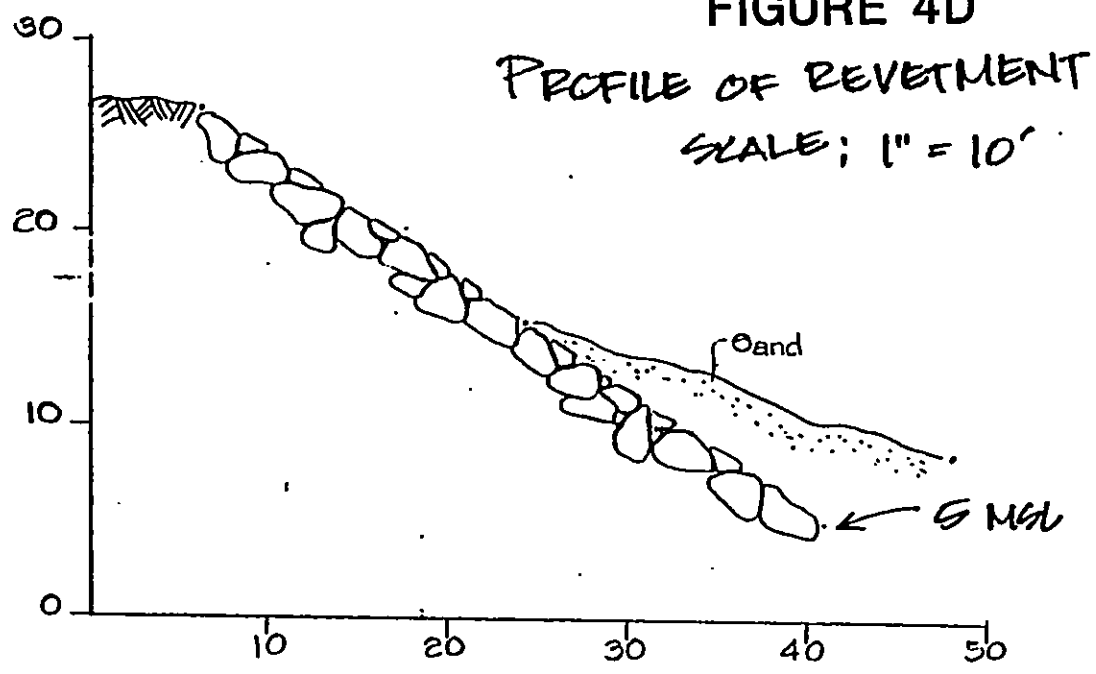


LOT 36/37

FIGURE 4D

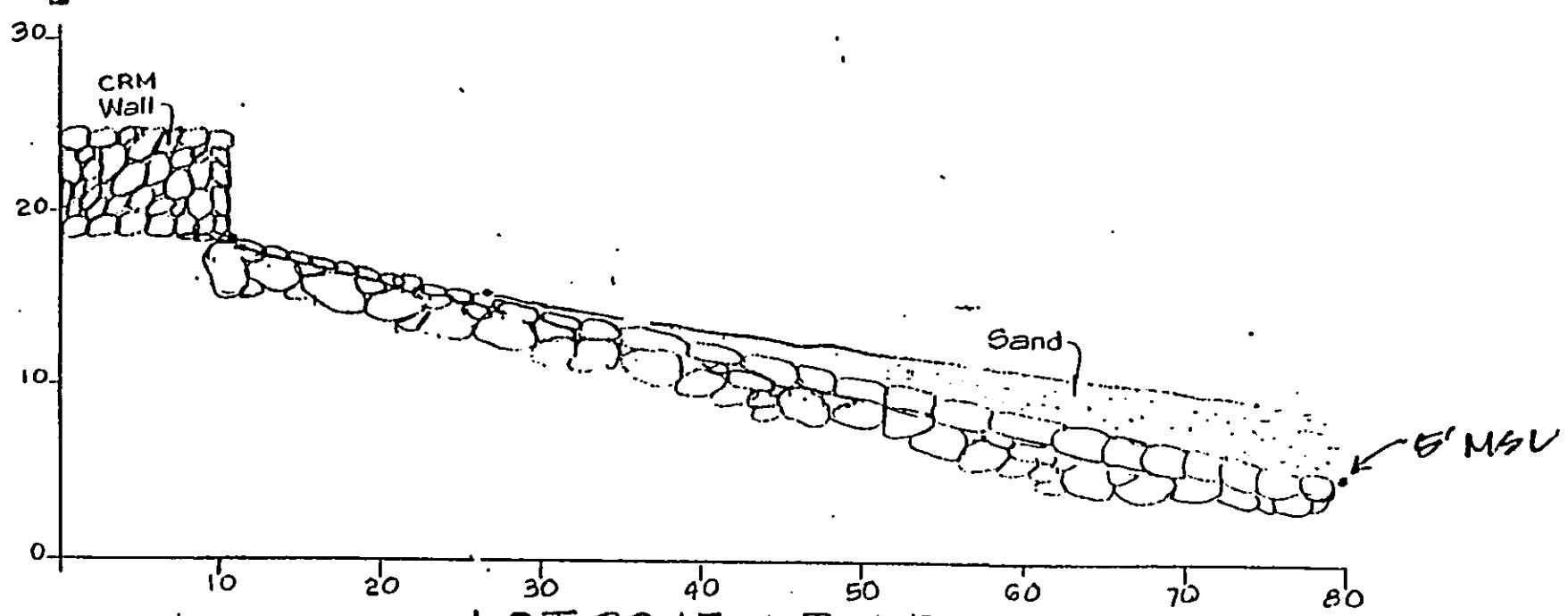
PROFILE OF REVETMENT FACE

SCALE; 1" = 10'



LOT 37/38

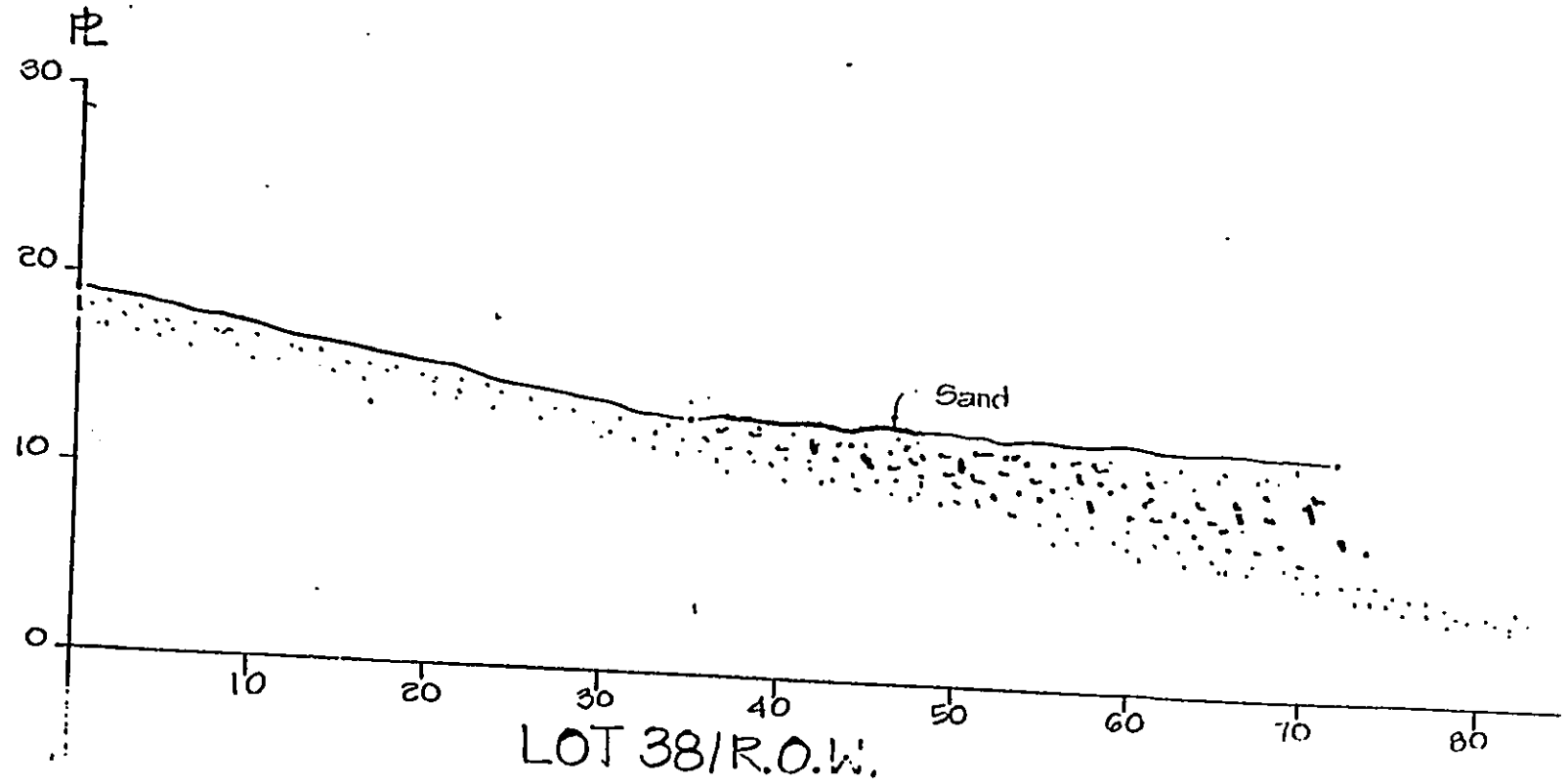
O/S



LOT 38 / End Rock Revetment

FIGURE 4E

PROFILE OF BEACH AT NORTHEAST PROPERTY LINE OF LOT 38



Highway (see Figure 5). Using these assumptions, the total area of the revetment on State property is about 25,570 square feet.

The lot owners for whom the revetment was built report that their contractors first excavated a sloping bank abutting their property. The bottom of the trench was a rock studded limestone shelf with an elevation several feet above sea level. A layer of filter cloth was laid to stabilize the sand slope abutting the private lots. Large boulders, 4 feet to 8 feet in diameter, were laid at the bottom of the trench. Small boulders, several feet in diameter, were piled to create a sloping wedge from the bottom of the trench to the makai side of the private lots. Open spaces in 200 feet of the sloping revetment fronting two lots (Tax Map Key: 5-9-20:51 & 52) were filled with concrete. Spaces between boulders for the other 500 feet of the sloping revetment were not filled. Sand was then pushed back to fill the trench and cover the toe of the revetment.

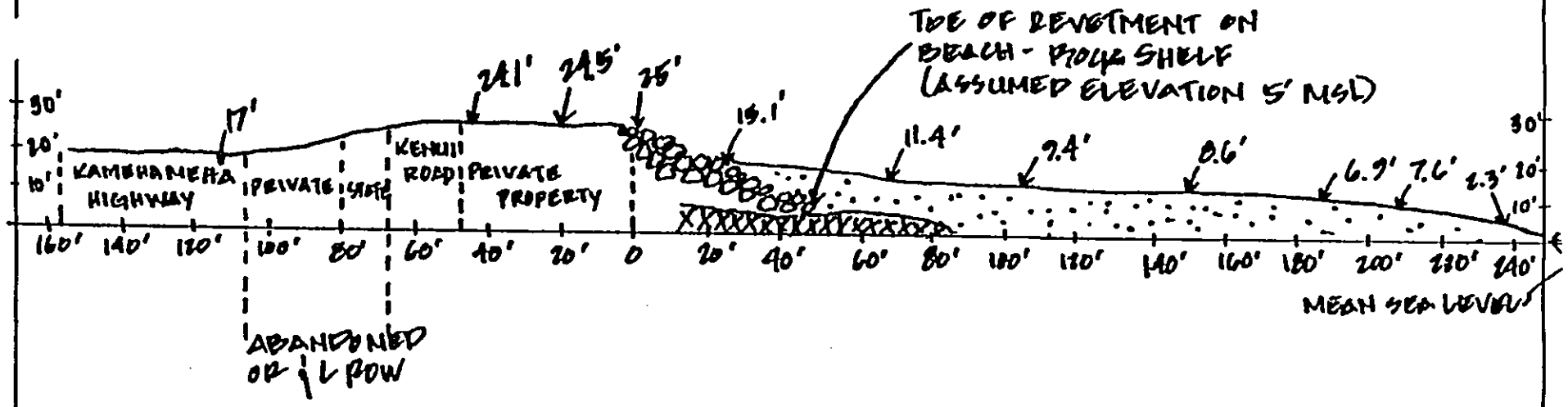
Since the revetment was first built in fall 1983, the abutting property owners report that on several occasions large surf has washed over the top of the revetment into their yards. A few rocks have been knocked off the ungrouted section of the revetment, but the revetment still is structurally sound. Spaces between the boulders in the ungrouted part of the revetment are gradually filling with sand, and as a result of natural processes, the beach is gradually covering the exposed part of the revetment.

The abutting property owners report that winter surf from the west to west-northwest scours the sand from the beach fronting the revetment and moves it towards Sunset Beach. When the beach fronting the revetment becomes narrow, unusually large surf from the west-northwest or northwest can reach the revetment. Typically, this happens in January and February. Swells from the north-northwest to northeast and easterly tradewinds deposit sand on the beach fronting the revetment. Most of the year, the beach fronting the revetment is over two hundred feet wide (see Figure 2). Sand may be bulldozed, at private expense, from the wide summer beach to cover exposed parts of the revetment if required.

The purpose of this EA is to serve as the basis for application for after-the-fact City and

FIGURE 5

JUNE 1987 TOPOGRAPHIC PROFILE ALONG PROPERTY LINE BETWEEN TMK: 5-7-20:49 AND 50 SCALE: 1" = 40'



State permits and easements for the revetment described in this document.

Each of the seven lots has 100 feet of frontage along the existing Ke Nui Road right-of-way. The lots are relatively narrow with widths ranging from 43 feet to 74 feet (see Figures 3A to 3G). Lot areas are described as follows:

Tax Map Key	Lot No.	Existing Lot Area (Square Feet)
5-9-20:47	38*	6,890
	37*	5,850
4-9-20:48	36	4,810
4-9-20:49	35	4,475
4-9-20:50	34	4,845
4-9-20:51	33	5,215
4-9-20:52	32	5,585

* NOTE: Lots 37 and 38 have not been consolidated, but have been assigned the same tax map key because they have only one owner

2.1 Historic Perspective

The seven beachfront lots now fronted by a 700-foot long sloping revetment were initially created by a subdivision of State land in 1920. The current lot owners believe that sometime in the 1940's, previous lot owners constructed a 400-foot long vertical sea wall on the makai property line of four lots (Tax Map Key: 5-9-20: 47-49). In January and February 1983, large winter surf undermined this vertical sea wall and caused so much shoreline erosion that houses on all seven lots were on the verge of destruction (see Figure 6).

Beginning in March 1983, Dr. Ostman began work on State and City permit applications to construct a sloping shoreline revetment to protect the seven lots. He met over 40 times with State officials. He reports that he was advised that the DLNR "might" review his application in about two years and that to date all similar applications had been denied. A DLNR site inspection, at Dr. Ostman's request, was not followed by any State action.

In September 1983, faced with the prospect of approaching winter surf and no legal means

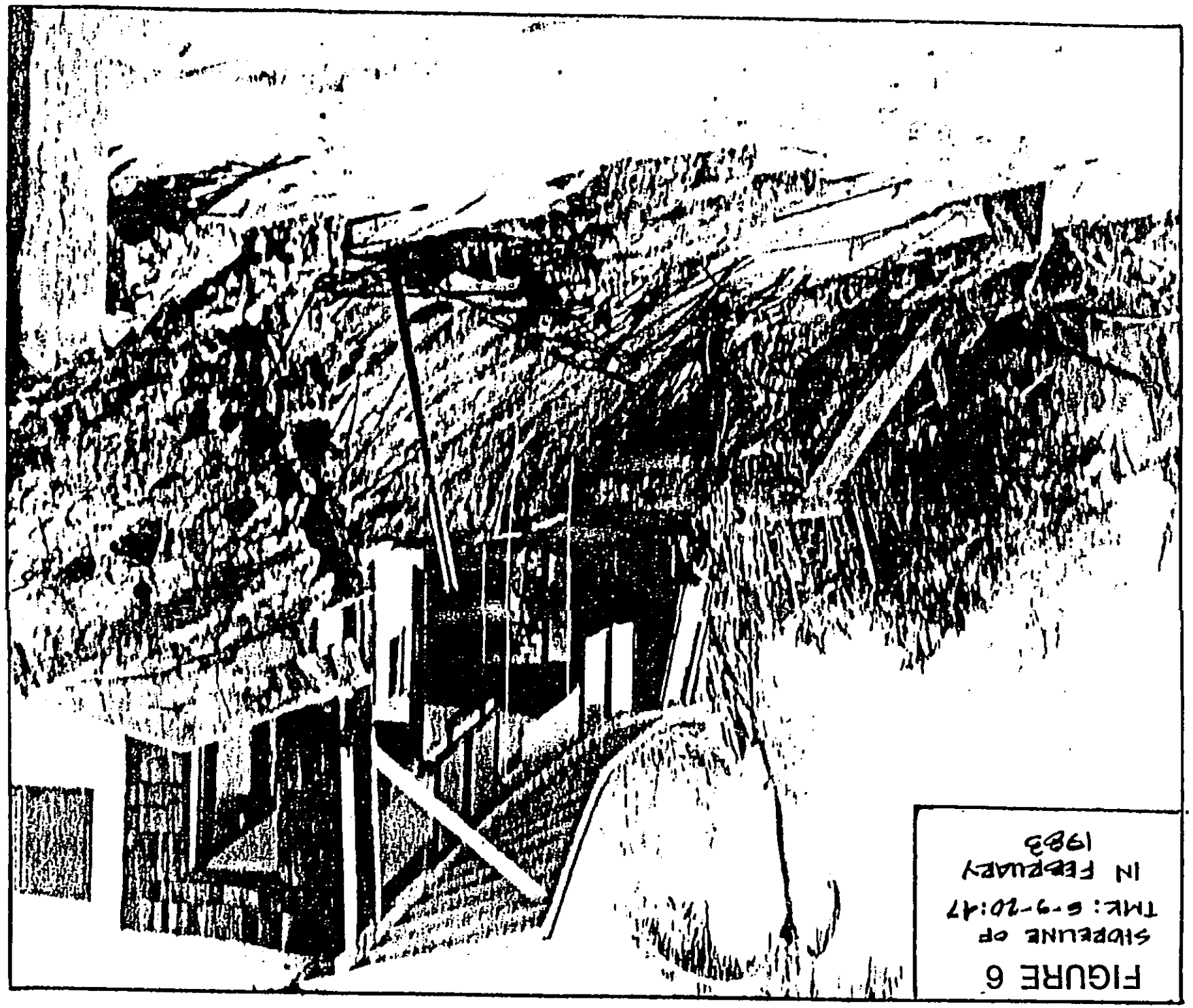


FIGURE 6
SIDEBEAM OF
TME: 6-9-20:47
IN FEBRUARY
1983

to protect their lots from further wave damage, the owners of the seven lots constructed the existing revetment. Subsequently, several of the lots were sold to new owners. City and State letters requesting removal of the subject revetment resulted in Dr. Ostman hiring an attorney. Neither the City nor the State went to court to force removal of the revetment.

After-the-fact permits for the revetment appear to be reasonable because:

a. If it were removed and no sea wall is built, beach retreat would destroy houses on the seven lots it fronts;

b. Because their lots are shallow and beach retreat would cause hardship, the seven lot owners have a legal right to obtain necessary permits to protect their property with a vertical sea wall on their makai property line; and

c. A well designed properly sited sloping revetment is environmentally superior to a vertical sea wall because it reflects less wave energy and minimizes scouring of the beach fronting and downdrift from the shoreline structure. The concept that sometimes it may be environmentally superior to construct a sloping revetment partly on State property, has been recognized in Act 356, Session Laws of Hawaii 1989.

2.2 Summary of Potential Impacts and Mitigation Measures

The primary impact of after-the-fact permits for the existing revetment makai of the seven lots is visual. The revetment changes the appearance of the beach. This impact could be mitigated if permits require sand to be bulldozed to camouflage exposed parts of the revetment.

During extreme conditions, when surf is washing onto the revetment face, there is a potential for backwash to scour sand fronting house lots on the Sunset Bach side of the revetment. It may be difficult to mitigate this environmental risk. The house lot immediately on the Sunset Beach side of the revetment has a vertical sea wall on its makai property line, but

neighboring lots are still fronted by natural vegetation. Presumably, backwash from the revetment during very high surf has not yet resulted in severe erosion of private property on its Sunset Beach side.

2.3 Necessary Permits and Approvals

2.3.1 State

Department of Land and Natural Resources

- Conservation District Use Permit (CDUP), if required
- (Revetment) Easement Application for Use of State Property Makai of Shoreline

2.3.2 City and County of Honolulu

Department of Land Utilization

Special Management Area Permit (SMP)

Shoreline Setback Variance Permit (SSV)

Application for a Special Management Permit Shoreline Setback Variance Permit (granted by City Council), the Conservation District Use Permit, if required, and revetment easement from the DLNR will be simultaneously made.

3. DESCRIPTION OF THE ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

3.1 Topography

The seven beachfront lots are situated at the crest of a shoreline dune. Elevations range from about 22 to 26 feet msl. The lots are about 5 to 10 feet higher than the mauka edge of the beach (abutting the shoreline revetment). The lots are roughly the same amount higher than Kamehameha Highway. The strip described as Ke Nui Road right-of-way is a terrace in the slope between the lots and Kamehameha Highway.

The face of the revetment between the seven lots and the beach varies in slope (see Figure 4). Slopes range from about 1:1.3 to 1:5.1.

The beach fronting the 700-foot revetment is over 200 feet wide during the summer (see Figure 5). During the winter, when waves from the west-northwest have carried sand towards Sunset Beach, the beach fronting the revetment may be less than half as wide. According to abutting property owners, except in February 1983 during extremely high surf, the beach has never completely disappeared in front of the revetment (Newspaper articles report that breaking wave heights reached 45 feet in February 1983.)

A rock studded limestone shelf is located beneath the revetment and part of the beach. The extent and topography of this shelf are unknown. The toe of the revetment reportedly rests on the beach rock shelf at an elevation several feet above sea level. In February 1983, when high surf scoured most of the sand off the beach rock shelf makai of the revetment, one of the seven lot owners recalls that about 50 feet of rock shelf was exposed above sea level whenever the waves receded.

Impacts are expected to be minimal as the revetment's purpose is to protect the beach front properties from erosion.

3.2 Soils

Soils between Kamehameha Highway and the makai edge of the seven beachfront lots are mostly a sandy loam overlying beach sand. These soils are porous and easily eroded. A wide white calcareous sand beach is located makai of the lots.

Impacts on soils are expected to be minimal.

3.3 Drainage/Water Resources

At the Waimea Bay end of the Ke Nui Road, Pakulena Gulch is the only place where lands mauka of Ke Nui Road can drain to the ocean. During the winter, the area between Ke Nui Road and Kamehameha Highway is poorly drained. Pakulena Gulch is normally dry except during storms. There are no potable groundwater resources along the coast makai of Kamehameha Highway.

No impacts on drainage or water resources are anticipated.

3.4 Offshore Conditions

The beach makai of the Waimea Bay end of Ke Nui Road is commonly known as Banzai Beach (or Banzai Rock Beach). It is a portion of a wide beach extending over two miles between Kulalua Point and Sunset Point. During the summer, this beach is at its widest and has a gentle slope to the ocean. During the winter, breaking waves severely erode parts of the beach and create a steep foreshore. Outcrops of lava rock and raised fossil reef (formed during a higher stand of the ocean) are seasonally exposed by beach erosion along parts of the two-mile long beach.

During calm periods (usually between May and August), the predominant tradewinds out of the northeast generate weak currents which shift offshore sand onto the beach between Kulalua Point and Sunset Point. Tradewind generated longshore currents move towards Waimea Bay and result in excellent offshore water quality.

Between the months of September and April, distant storms in the northern hemisphere generate small to large surf on Oahu's North Shore. Longshore currents at Banzai Beach reflect the direction with which swells approach the coast. Swells out of the west to northwest, which predominate, generate currents towards Sunset Point. Swells out of the north, which are relatively less common, generate currents towards Waimea Bay. Except when storm runoff enters the ocean, these currents result in excellent offshore water quality.

Breaking waves on Oahu's North Shore usually are less than 15 feet high. A few times per year, breaking waves may get as large as 20 to 30 feet. A few times per decade, breaking waves may get as large as 40 to 50 feet. Information on the recurrence interval of larger surf is unavailable.

The strength of longshore currents reflects the size of breaking surf. When waves are breaking more than a few feet high, currents are usually too strong for casual recreational swimming at Banzai Beach. When waves are breaking more than eight feet high, longshore

currents and outgoing rip currents are extremely hazardous.

Offshore of Banzai Beach, there are numerous popular surf sites. The famous "Banzai Pipeline" is located about midway between Pakulena Gulch and Ehukai Beach Park. "Off-the-walls" is a small wave break immediately offshore of the seven beachfront lots. "Log Cabins" is a small wave break on the Waimea Bay side of Pakulena Gulch.

3.5 Natural Hazards

Natural hazards at the seven beachfront lots include the potential for tsunamis and hurricanes and episodic high surf and beach erosion. The adopted City Flood Insurance Rate Map projects that the highest tsunami likely to occur within 100 years would be 17 feet above mean sea level at the Waimea Bay end of Ke Nui Road. Hence, the sloping revetment, but not the seven lots it protects, is within the projected tsunami inundation zone. Existing information is insufficient to reliably assess whether a tsunami would damage the revetment.

Since the revetment was built in 1983, unusually high surf has reportedly topped it on several occasions without major damage to the revetment or mauka property. At such times, water from broken waves, trapped on the mauka side of other breaking waves, can inundate the beach. Based on past performance, including 45-foot breaking waves in February 1983, which washed most sand off the face and toe of the revetment, the revetment probably can withstand the kind of wave attack which is likely to periodically occur.

Existing information is insufficient to reliably assess how much further inland the shoreline would retreat if the revetment were removed. Only one of the seven lots now fronted by the revetment ever had a certified survey of the actual shoreline prior to construction of the revetment. This lot, TMK: 5-9-20: 52), abuts the Sunset Beach side of Pakulena Gulch. In March 1976, the vegetation line was about 17 feet inland of the lot's makai property line on its Pakulena Gulch side. And in march 1976, the vegetation line was about 13 feet seaward of the lot's makai property line on its Sunset Beach side (at the property boundary between TMK: 5-9-20: 52 and 51). The owners of four lots (TMK: 5-9-20: 47-49) report that prior

to 1983, shoreline vegetation was about 20 feet makai of a vertical seawall on their makai property line. The owners of two lots (TMK: 5-9-20: 50 and 51) also report that prior to 1983, the vegetation line was about 20 feet seaward of their makai property line. However, there is no reliable basis to determine where the vegetation line used to be except with TMK: 5-9-20:52.

Aerial photographs suggests that if there were a natural shoreline on the makai side of the seven lots, then it would fluctuate within a wide range rather than continuously accreting or eroding. According to an analysis of aerial photographs summarized in the City Department of Land Utilization's Oahu Shoreline Setback Study, over a 39-year period, the vegetation line has fluctuated within a 20 to 30-foot range along most transects between Kulalua Point and Sunset Point. Along the closest transect, on the Sunset Beach side of the seven lots, the vegetation canopy moved seaward by 15 feet between May 1949 and August 1962, was relatively stable through April 1979, and then retreated 12 feet inland by February 1988.

3.6 Vegetation

A few small false kamani trees and some naupaka grow in holes within the 700-foot revetment. Otherwise, there is no vegetation makai of the seven beachfront lots.

3.7 Fauna

There are no rare or endangered native species on Banzai Beach. Introduced species of birds and native ghost crabs are common but not unusually abundant.

3.8 Existing Land Uses

The recreational value of the coastline between Waimea Bay and Sunset Beach is so great that weekend beachgoers often generate traffic jams and parked cars crowd the shoulders on Kamehameha Highway. During most of the winter, the Banzai Pipeline is one of the few consistently usable surf sites on the North Shore. Like the rest of the beach between Kulalua Point and Sunset Point, Banzai Beach is popular as a picnicking and swimming area during the summer. Offshore surf sites draw numerous surfers and spectators during the winter.

The public has access to Banzai Beach on both sides of the 700-foot revetment. There is a beach right-of-way on the Sunset Beach side of the revetment. There is unimproved public parking on the Waimea Bay side of Pakulena Gulch.

The seven beachfront lots abutting the revetment each contain one single-family house with a kitchen. Three of the lots contain a second house without a kitchen.

3.9 Historic Sites and Archaeological Resources

There are no known archaeological resources in the area where the revetment was built.

Past land uses of Ke Nui Road and the abutting abandoned railroad right-of-way make it unlikely that archaeological resources are still present.

3.10 Air Quality, Noise, and Nuisances

The project area has no air quality problems and is not subject to unusual nuisances. Lands immediately abutting Kamehameha Highway are impacted by vehicular noise.

3.11 Socio-Economic Environment

3.11.1 Social Characteristics

Four of the lots protected by the sloping revetment contain one house, and there are two houses each on Tax Map Key: 5-9-20: 49, 50 and 52. The City Building Department has issued a Building Permit Notice of Violation to the owner of Tax Map key: 5-9-20: 49 for a side yard setback violation, and the owner has obtained a building permit. All other structures are legal provided that no additional kitchens are added.

3.11.2 Economic Characteristics

The seven abutting lot owners will pay lease rent to the State for a revetment easement on State property. The amount of rent will be determined by an independent appraiser hired by the State. The seven lot owners will fund the cost of this appraiser.

Although it is possible that the DLNR may impose a fine on the seven abutting property

owners for constructing a revetment within the Conservation District without first obtaining approval of CDUA. At this time, it is not possible to predict whether a fine will be assessed. The staff recommendation is that any fine be marginal, in the amount of $1.00

3.12 Public Facilities and Services

3.12.1 Traffic and Roads

The 50-foot wide Kamehameha Highway (see Figure 1) right-of-way is separated from the strip described as Ke Nui Road by a 40-foot wide privately-owned abandoned railroad right-of-way. The two-lane Kamehameha Highway is subject to traffic congestion on sunny weekends and holidays because of heavy public use of North Shore beaches. The unimproved shoulders of Kamehameha Highway are used for public parking by beachgoers.

The adopted North Shore Development Plan Public Facilities Map does not indicate that any State or City highway, parking, bikeway, or pedestrian improvements are proposed between the existing Kamehameha Highway pavement and the seven lots addressed by this EA.

4. RELATIONSHIP OF THE ACTION TO LAND USE PLANS, POLICIES AND CONTROLS FOR THE AFFECTED AREA

4.1 Hawaii State Plan

The action is compatible with Section 226-11, HRS, which contains objectives and policies for the physical environment -- land-based shoreline, and marine resources. Policies within this section which are facilitated by the action are:

> "(1) Exercise an overall conservation ethic in the use of Hawaii's natural resources.
>
> (2) Ensure compatibility between land-based and water-based activities and natural resources and ecological systems.
>
> (3) Manage natural resources and environs to encourage their beneficial and multiple use without generating costly or irreparable environmental damage."

4.2 State Land Use Law (SLUC) and Conservation District (CDUA)

Lands located mauka of the shoreline are designated urban according to State Land Use classification, and lands makai of the shoreline are classified in the Conservation District.

If it is determined that the subject revetment exists within the State's Conservation District, a CDUP will be sought. The Department of Land and Natural Resources requires the filing of an application for any development makai of the shoreline in the Conservation District. An official shoreline survey is required to be certified by the DLNR. However, Conservation District boundaries cannot be amended by building structures seaward of the shoreline. A certified shoreline map is required for a Shoreline Setback Variance Application to the City and County DLU. An Easement Application for use of State property for the portion of the revetments makai of the seven lots is also needed.

4.3 Development Plan and County Zoning

The seven lots abutting the revetment and all public and private property between the seven lots and Kamehameha Highway are designated as residential on the North Shore Development Plan Land Use Map. These are zoned R-5 on Zoning Map No. 18 (Kawailoa to Waialee). The portion of the revetment on State property is designated as park on the North Shore Development Plan Land Use Map and is zoned P-1 on Zoning Map No. 18.

Generally, all City and County zoning districts allow construction of shoreline revetments.

4.4 Special Management Area (SMA), Chapter 205A, HRS

The intent of the SMA program is to preserve and provide coastal resources including recreational and other opportunities. An SMA Permit is being sought from the City and County of Honolulu's City Council.

A Shoreline Setback Variance Application is also being sought for development in the 20-foot setback area mauka of the shoreline.

5. ALTERNATIVES TO THE PROPOSED ACTION

The possibility of requiring removal of the existing sloping revetment was considered. If the existing revetment were removed, the seven-lot owners would have the legal right to obtain necessary permits to protect their property with a vertical sea wall on their makai property line. A well-designed, properly sited sloping revetment is environmentally superior to a

vertical sea wall because it reflects less wave energy and minimizes scouring of the beach fronting and downdrift from the shoreline structure

6. RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Strengthening of the revetment may be an appropriate permit requirement for granting of a Shoreline Variance and a SMP. Shifting of sand from the wide summer beach to cover the revetment may also be an appropriate requirement for granting of these permits. State law created these permits to minimize risk of adverse effects to beach processes, avoid reductions in the size of beaches, and preserve public views to and along the shoreline. The issue will be resolved at the appropriate time.

7. CONSULTED AGENCIES

State of Hawaii, Department of Land and Natural Resources

City and County of Honolulu, Department of Land Utilization

City and County of Honolulu, Department of Parks and Recreation